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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
PATTERSON, MARC A	
ART UNIT	PAPER NUMBER
1772	

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

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Office Action Summary	**Application No.** 10/679,953	**Applicant(s)** GORD ET AL.	
	Examiner Marc A. Patterson	**Art Unit** 1772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 February 2006*.
2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-14* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a)☐ All b)☐ Some * c)☐ None of:
1.☐ Certified copies of the priority documents have been received.
2.☐ Certified copies of the priority documents have been received in Application No. _____.
3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

NEW REJECTIONS

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 – 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Wiegel et al (WO 01/45917).

With regard to Claims 1 – 2, Wiegel et al disclose a tubular film that is produced by extruding an aqueous N – methylmorpholine N – oxide spinning solution (page 5, lines 30 – 35; page 6 lines 1 – 5) and is therefore seamless, that is cellulose – based (comprising cellulose; page 4, lines 30 – 35) and comprises wheat protein (wheat gluten; page 4, lines 8 – 16); Weigel also discloses a mixture of wheat proteins with other proteins (one or more proteins; page 4, lines 8 – 16) and discloses that the proteins are plasticizers for the film (page 5, lines 14 – 17), the additional proteins are therefore fillers; Wiegel et al disclose a solution comprising the cellulose and protein (page 7, lines 14 – 20), and Weigel et al do not disclose chemical modification or breakdown of the molecular chains; the protein is therefore soluble together with cellulose in oxides of tertiary amines without chemical modification or breakdown of the molecular chains.

With regard to Claims 3 – 4, the protein content disclosed by Wiegel et al is from about 8% to 45% by weight of the tubular film dry weight (proportion of the proteins in the film varies between 1 and 80%; page 5, lines 10 – 13).

With regard to Claim 5, the filler disclosed by Weigel et al comprises protein, as stated above, and therefore comprises organic material.

3. Claims 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wiegel et al (WO 01/45917) in view of Hammer et al (U.S. Patent No. 6,048,917).

Weigel et al disclose a food casing comprising a filler as discussed above. Weigel et al fail to disclose a filler comprising titanium dioxide.

Hammer et al teach the interchangeable use of a food casing comprising or not comprising a filler comprising titanium dioxide (pigment, therefore a filler; column 3, lines 57 – 60) for the purpose of obtaining a casing having color (the pigment is a filler, as discussed above). One of ordinary skill in the art would therefore have recognized the advantage of providing for the titanium dioxide of Hammer et al in Weigel et al, which comprises a filler, depending on the desired color of the end product.

It therefore would have been obvious for one of ordinary skill in the art at the time Applicant's invention was made to have provided for titanium dioxide in Weigel et al in order to obtain a casing having color as taught by Hammer et al, therefore obtaining a filler that is insoluble in aqueous N – methylmorpholine N – oxide.

4. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wiegel et al (WO 01/45917) in view of Turbak et al (U.S. Patent No. 3,833,022).

Weigel et al disclose a food casing comprising a filler as discussed above. Weigel et al fail to disclose a fibrous filler having a maximum dimension of up to 200 □m and a particulate filler having a particle size of up to about 20 □m.

Turbak et al teach a fibrous (fibrillar; column 5, lines 37 – 39) particulate (comprising particles; column 5, lines 39 – 43) filler (column 5, lines 37 – 39) having a maximum dimension of 50 □m (particle length of 50 microns; column 5, lines 39 – 43) and a particle size of up to about 20 □m (17 □m; column 5, lines 39 – 43) for a casing (column 3, lines 4 – 7) for the purpose of obtaining a superior dry casing (column 3, lines 11 – 13). One of ordinary skill in the art would therefore have recognized the advantage of providing for the filler of Turbak et al in Weigel et al, which is a casing, depending on the desired superiority of the end product.

It therefore would have been obvious for one of ordinary skill in the art at the time Applicant's invention was made to have provided for a fibrous filler having a maximum dimension of up to 200 □m and a particulate filler having a particle size of up to about 20 □m in Weigel et al in order to obtain a superior dry casing as taught by Turbak et al.

5. Claims 10 – 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wiegel et al (WO 01/45917) in view of Burke (U.S. Patent No. 3,423,358).

Weigel et al disclose a food casing which is a polymer comprising a filler as discussed above. With regard to Claims 10 – 11, Weigel et al fail to disclose an organic filler that is precrosslinked to reduce its solubility.

Burke teaches a filler (column 1, line 59 – 60) for a polymer (film; column 1, lines 59 – 60) which is crosslinked (thermosetting; column 7, lines 43 – 47) for the purpose of obtaining a filler that is ideally suited for dye adsorption (column 10, lines 63 – 65). One of ordinary skill in the art would therefore have recognized the advantage of providing for the filler of Burke in

Weigel et al, which comprises a filler, depending on the desired dye adsorption of the end product.

It therefore would have been obvious for one of ordinary skill in the art at the time Applicant's invention was made to have provided for an organic filler that is crosslinked, therefore precrosslinked, therefore insoluble, in Wiegel et al in order to obtain a filler that is ideally suited for dye adsorption as taught by Burke.

6. Claims 12 – 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wiegel et al (WO 01/45917) in view of Luo et al (U.S. Patent No. 6,706,876).

Weigel et al disclose cellulose as discussed above. With regard to Claims 12 – 13, Weigel et al fails to disclose a cellulose having a mean degree of polymerization from 450 – 850.

Luo et al teach a cellulose having a mean degree of polymerization from 450 – 850 (column 6, lines 24 – 30) for the purpose of obtaining a cellulose that forms high strength fibers (column 6, lines 24 – 30). One of ordinary skill in the art would therefore have recognized the advantage of providing for the cellulose of Luo et al in Weigel et al, which comprises cellulose, depending on the desired strength of the end product.

It therefore would have been obvious for one of ordinary skill in the art at the time Applicant's invention was made to have provided for cellulose having a mean degree of polymerization from 450 – 850 in Weigel et al in order to obtain cellulose that forms high strength fibers as taught by Luo et al.

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wiegel et al (WO 01/45917) in view of Bastioli et al (U.S. Patent No. 5,412,005).

Weigel et al disclose cellulose as discussed above. Weigel et al fail to disclose cellulose comprising an organic filler comprising chitosan.

Bastioli et al teach cellulose (column 2, lines 1 – 2) comprising a filler comprising chitosan (additive comprising chitosan; column 10, lines 57 – 61) for the purpose of obtaining a cellulose that is processable into a film (column 1, lines 44 – 49). One of ordinary skill in the art would therefore have recognized the advantage of providing for the filler of Bastioli et al in Weigel et al, which comprises cellulose, depending on the desired processability of the end product.

It therefore would have been obvious for one of ordinary skill in the art at the time Applicant's invention was made to have provided for an organic filler comprising chitosan in Weigel et al in order to obtain a cellulose that is processable into a film as taught by Bastioli et al, therefore obtaining an additive comprising a filler having a reduced solubility in aqueous N – methylmorpholine N – oxide compared to a water soluble salt.

8. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wiegel et al (WO 01/45917) in view of Kastl et al (U.S. Patent No. 4,741,938).

Weigel et al disclose cellulose as discussed above. Weigel et al fail to disclose cellulose which is plasticized by glycerol and which has a water content of about 8% by weight.

Kastl et al teach a cellulose (column 3, lines 36 – 37) which is plasticized by glycerol (column 3, lines 52 – 55) and which has a residual moisture of about 8% (column 9, lines 45 – 46) in which the moisture is water (column 7, line 29) for the purpose of obtaining a film which is suitable for packaging (column 3, lines 52 – 55). One of ordinary skill in the art would therefore have recognized the advantage of providing for the plasticizer and water content of Kastl et al in Weigel et al, which comprises cellulose, depending on the desired suitability for packaging of the end product.

It therefore would have been obvious for one of ordinary skill in the art at the time Applicant's invention was made to have provided for cellulose which is plasticized by glycerol and which has a residual moisture, therefore a water content of about 8% in Weigel et al in order to obtain a film which is suitable for packaging as taught by Kastl et al.

ANSWERS TO APPLICANT'S ARGUMENTS

9. Applicant's arguments regarding the 35 U.S.C. 102(b) rejection of Claims 1 – 5 and 9 as being anticipated by Wiegel et al (WO 01/45917), 35 U.S.C. 103(a) rejection of Claim 7 as being unpatentable over Wiegel et al (WO 01/45917) in view of Hammer et al (U.S. Patent No. 6,048,917), 35 U.S.C. 103(a) rejection of Claim 8 as being unpatentable over Wiegel et al (WO 01/45917) in view of Turbak et al (U.S. Patent No. 3,833,022), 35 U.S.C. 103(a) rejection of Claims 10 – 11 as being unpatentable over Wiegel et al (WO 01/45917) in view of Burke (U.S. Patent No. 3,423,358), 35 U.S.C. 103(a) rejection of Claims 12 – 13 as being unpatentable over Wiegel et al (WO 01/45917) in view of Luo et al (U.S. Patent No. 6,706,876), 35 U.S.C. 103(a) rejection of Claim 6 as being unpatentable over Wiegel et al (WO 01/45917) in view of Bastioli et al (U.S. Patent No. 5,412,005) and 35 U.S.C. 103(a) rejection of Claim 14 as being unpatentable over Wiegel et al (WO 01/45917) in view of Kastl et al (U.S. Patent No.

4,741,938), of record in the previous Action, have been carefully considered but have not been found to be persuasive for the reasons set forth below.

Applicant argues, on page 10 of the arguments dated February 16, 2006, that Weigel et al do not disclose a filler, because Weigel et al disclose proteins which plasticize the disclosed film, and do not interrupt the cellulose structure and reduce the film's extensibility.

However, the term 'filler' does not exclude Weigel et al, because the plasticizer disclosed by Weigel et al at least partially fills the film; furthermore, the filler also interrupts the disclosed film, because molecules of filler are blended with molecules of cellulose. The interruption of the cellulose structure and reduction of extensibility is also not claimed.

Applicant also argues on page 10 that Weigel et al provides no detail as to chemical modification or breakdown of chains, but that the lack of description does not mean that Weigel et al does not chemically modify or breakdown chains.

However, Weigel et al also does not refer to the disclosed proteins as modified proteins or having been broken down; Weigel et al is therefore interpreted to disclose a protein comprising only protein, which is unbroken, for reasons other than a lack of detailed description.

Applicant also argues, on page 11, that the disclosure in Weigel et al of 80% by weight in relation to proportion of solid matter is not necessarily analogous to the tubular dry film weight which is claimed; Weigel et al provide no indication, Applicant argues, of what the 'solid matter' in the film is.

However, because no liquid is disclosed in the film of Weigel et al, the phrase 'solid matter' clearly refers to the entire mass of the film.

Applicant also argues, on page 12, that there is no motivation to provide for the pigments of Hammer et al in Weigel et al because Weigel et al do not disclose coloring.

However, as stated on page 3 of the previous Action, Hammer et al disclose the interchangeable use of a food casing comprising or not comprising titanium dioxide.

Applicant also argues on page 12 that there is no motivation to provide for the filler of Turbak et al in Weigel et al.

However, as stated on page 4 of the previous Action, both Weigel et al and Turbak et al are directed to casings; therefore, there is motivation to provide for the filler of Turbak et al in Weigel et al.

Applicant also argues, on page 13, that Burke is not suited for producing seamless tubular films, or crosslinking in an NMMO solution.

However, as stated on page 5 of the previous Action, Burke teaches a filler for a polymer which is crosslinked for the purpose of obtaining a filler that is ideally suited for dye adsorption. One of ordinary skill in the art would therefore have recognized the advantage of providing for the filler of Burke in Weigel et al, which comprises a filler, depending on the desired dye adsorption of the end product.

Applicant also argues on page 13 that Luo et al do not teach an aqueous NMMO solution comprising a filler.

However, Luo et al is cited only for the teaching that it is known in the art to provide for cellulose having the disclosed degree of polymerization.

Applicant also argues, on page 14, that Bastioli et al does not disclose a filler in an NMMO solution.

However, as stated on page 6 of the previous Action, Bastioli et al teach cellulose comprising a filler comprising chitosan for the purpose of obtaining a cellulose that is processable into a film. One of ordinary skill in the art would therefore have recognized the advantage of providing for the filler of Bastioli et al in Weigel et al, which comprises cellulose, depending on the desired processability of the end product.

Applicant also argues, on page 15, that the water content of Kastl et al is 7%, rather than 8%.

However, a water content of about 8% is claimed, which does not exclude a water content of 7%

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc A Patterson whose telephone number is 571-272-1497. The examiner can normally be reached on Mon - Fri 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Marc Patterson 5/1/06
Marc A. Patterson, PhD.
Primary Examiner
Art Unit 1772